OCT 1 0 2006 ARK OFFICE

IN THE UNITED In re Application of:

FRANCH, et al.

Serial No.: 10/549,619

Filed: February 28, 2006

For: LIGATIONAL ENCODING OF

SMALL MOLECULES

Art Unit: 1623

Examiner:

Washington, D.C.

October 10, 2006

Docket No.: FRANCH=4A

Confirmation No.: 8187

## INFORMATION DISCLOSURE STATEMENT [IDS]

U.S. Patent and Trademark Office Customer Service Window

Randolph Building 401 Dulany Street Alexandria, VA 22314

## Sir:

This Information Disclosure Statement is submitted in accordance with 37 C.F.R. 1.97, 1.98, and it is requested that the information set forth in this statement and in the listed documents be considered during the pendency of the aboveidentified application, and any other application relying on the filing date of the above-identified application or crossreferencing it as a related application.

- This IDS should be considered, in accordance with 37 C.F.R. 1.97, as it is filed:
- [ ] A. within three months of the filing date of the above-identified national application or within three months of the entry into the national stage of the above-identified international application. See 37 CFR 1.97(b)(1) and (3).
- [X] B. before the mailing date of a first office action on the merits. See 37 CFR 1.97(b).
- [] C. after (A) and (B) above, but before final rejection or allowance, and Applicants have made the necessary certification (box "i" below) or paid the necessary fee (box "ii" below) See 37 CFR 1.97(c)(2).
  - [ ] i. Counsel certifies that, upon information and

belief, each item of information listed herein was either (a) cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filling of this IDS or (b) was not cited in a communication from a foreign patent office in a counterpart foreign application and was not known to any individual designated in 1.56(c) more than three months prior to the filling of this IDS.

- [] ii. Credit Card Payment Form, PTO-2038, authorizing payment for the fee set forth in 1.17(p), presently believed to be \$180, is attached.
- [] D. after (A), (B) and (C) above, but before payment of the issue fee. Applicant petitions under 37 C.F.R. 1.97(d) for consideration of this IDS. A Credit Card Payment Form, PTO-2038, authorizing payment for the fee set forth in 1.17(p)(1), presently believed to be \$180 is attached. Counsel certifies that, upon information and belief, each item of information listed herein was either (i) cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this IDS or (ii) was not cited in a communication from a foreign patent office in a counterpart foreign application and was not known to any individual designated in 1.56(c) more than three months prior to the filing of this IDS.
- [] E. As a submission in accordance with the transitional procedure for limited examination after final rejection pursuant to 37 CFR \$1.129(a). Pursuant to MPEP \$706.07(g), page 700-66, col. 2 (August 2001), this IDS is treated as if filed with a period set forth in 37 CFR \$1.97(b) and considered without the petition and petition fee required by 1.97(d).
- [ ] F. As a submission with or after a request for continued examination under CFR §1.114, and before the mailing of a first office action on the RCE. See 37 CFR §1.97(b)(4).
  - 2. In accordance with 37 C.F.R. 1.98, this IDS includes a

list (e.g., form PTO-1449) of all patents, publications, or other information submitted for consideration by the office, either incorporated into this IDS or as an attachment hereto. A copy of each document is attached, except as explained below.

- [] While an IDS filed under \$1.97 must contain a "list of all patents, publications or other information submitted for consideration by the Office", see \$1.98(a) (1), the only requirement for the list is that it provide the information set forth in \$1.98(b). There is no requirement that a form PTO-1449 be used (MPEP \$609 merely says that use of this form is "encouraged"). Counsel has used a list provided to him by Applicants, and not transferred the information to a PTO-1449, to avoid the risk of any inadvertent error in transferring the information.
- [X] A. Documents <u>AA-BJ</u> are U.S. Patents or U.S. Patent Publications, and hence copies of these documents have not been provided. See 37 CFR 1.98(a)(2)(ii).
- [] B. Documents \_\_\_\_\_\_ are deemed substantially cumulative to documents \_\_\_\_\_\_, and, in accordance with 1.98(c), only a copy of each of the latter documents is enclosed.
- [] C. Certain documents were previously cited by or submitted to the Office in the following prior application(s), which are relied upon under 35 U.S.C. 120:

[insert serial number/filing date] Applicants identify these documents by attaching hereto copies of the form PTO-892s and PTO-1449s from the files of the prior applications or a fresh PTO-1449 listing these documents, and request that they be considered and made of record in accordance with 1.98(d). Per 37 CFR 1.98(d), copies of these documents need not be filed in this application. If copies of any of these documents cannot be found in the files of the prior applications, the Examiner is requested to so notify counsel <a href="mailto:before">before</a> taking action in this case, so replacement copies can be submitted. While an IDS filed under \$1.97 must contain a "list of all patents, publications or other information submitted for

consideration by the Office", see §1.98(a) (1), the only requirement for the list is that it provide the information set forth in §1.98(b). There is no requirement that a form PTO-1449 be used (MPEP §609 merely says that use of this form is "encouraged") and no prohibition on submitting a copy of a form PTO-1449 or form PTO-892 from a prior case. Indeed, the re-use of such forms is desirable as it avoids error in transferring the information, and evidences that the reference was considered in a prior application. A previously accepted PTO-1449, or an examiner-prepared PTO-892, necessarily complies with §1.98(b). [ ] 3. Documents \_\_\_\_\_ are not in the English language. In accordance with 1.98(a)(3), Applicants state: [ ] documents \_\_\_\_\_ already contain an English language abstract, summary or claim set. [ ] a publicly available abstract is attached to each of documents \_\_\_\_, and the source of each abstract is indicated thereon. [ ] documents are publicly available English language abstracts of foreign language patents. If the Examiner would like us to obtain a copy of the underlying document, with or without a translation, s/he should contact Counsel. [ ] documents \_\_\_ are patents or published patent applications for which counterpart English language patents or patent applications exist, and are enclosed, as follows: Foreign Lang. Doc.# English Lang, Doc.# [insert] [insert] [ ] applicants have prepared an English translation of at least the pertinent portions of documents \_\_\_\_\_, and copies are attached. [ ] A concise explanation of the relevance of documents \_\_\_\_ is found in the attached search report from

the \_\_\_\_\_ Patent Office (see reply to Comment 68 in the preamble to the final rules; 1135 OG 13 at 20).

- [ ] A concise explanation of the relevance of documents \_ appears in the present specification.
- [ ] A concise explanation of the relevance of documents \_\_\_\_\_ is set forth as follows:

[Insert concise explanation of relevance]

- 4. No explanation of relevance is necessary for documents in the English language (see reply to Comments 67 and 68 in the preamble to the final rules; 1135 OG 13 at 20).
- 5. If the month of publication of a nonpatent reference is not stated, it is because it is not apparent from review of the reference. If requested to do so by the Examiner, Applicants will attempt to locate and write to the publisher.

If the publication date of a cited document is set forth only as a publication year, and that year is prior to the year of filing or, if priority is claimed, year of priority of this application, then the particular month of publication is not in issue. Likewise if that publication year is after the year of filing of this application, the month of publication is not in issue.

If the date of publication of a nonpatent reference is stated, then, except as explained below, it is the nominal date stated in the reference, or in a larger document (journal or book) from which the reference was extracted. Applicants reserve the right to challenge this date by contacting the publisher to determine the actual shipment date, or by contacting recipients to determine the receipt dates.

6. Other information being provided for the examiner's consideration follows:

## [insert other information]

7. In accordance with 37 C.F.R. 1.97(g) and (h), the filing of this IDS should not be construed as a representation that a search has been made or that information cited is, or is considered to be, material to patentability as defined in \$1.56 (b), or that any cited document listed or attached is (or constitutes) prior art. Unless otherwise indicated, the date of

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publication indicated for an item is taken from the face of the item and Applicant reserves the right to prove that the date of publication is in fact different.

8. The Commissioner is hereby authorized and requested to charge any additional fees which may be required in connection with this paper or credit any overpayment to Deposit Account No. 02-4035.

Respectfully submitted,

BROWDY AND NEIMARK, P.L.L.C.

Attorneys for Applicant

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FILING DATE IF APPROP.

OIPE OCT. 1 0 2006

U.S. PATENT DOCUMENTS (include at least patentee, patent number and issue date)

DOCUMENT NUMBER

SUBSTITUTE FOR FORM IPC/SB/08

EXAMINER

/HC/

INITIAL

BARRE TRADES INFORMATION DISCLOSURE STATEMENT LIST OF DOCUMENTS CITED BY APPLICANT

ATTY DOCKET NO: FRANCH=4A SERIAL NO: 10/549,619

FIRST INVENTOR: FRANCH, Thomas

PATENTEE

Kurz, M et al.

Szostak, J et al.

FILING DATE: February 28, 2006 ART UNIT: 1623

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	AC	6	1	4	3	5	0	3	Nov 7, 2000	Baskerville, DS et al.		
	AD	6	6	2	0	5	8	7	Sept 16, 2002	Taussig, MJ et al.		May 28, 1998
	AE	20	03	00	04	-1	2	2	Jan 2, 2003	Beigelman et al.		April 4, 2001
	AF	6	5	9	3	0	8	8	Jul 15, 2003	Saito, I et al.		Aug 24, 2000
	AG	5	5	7	1	9	0	3	Nov 5, 1991	Gryaznov,SM et al.		
	AH	5	4	7	6	9	3	0	Dec 19, 1995	Letsinger, RL et al.		
+	AI	5	6	8	1	9	4	3	Oct 28, 1997	Letsinger, RL et al.		
	AJ	5	7	8	0	6	1	3	Jul 14, 1998	Letsinger, RL et al.		
	AK	5	7_	4	1	6	4	3	Apr 21, 1998	Gryaznov, SM et al.		
	AL	5	8	3	0	6	5	8	Nov 3, 1998	Gryaznov, SM et al.		
	AM	5	8	4	3	6	5	0	Dec 1, 1998	Segev, D		
_	AN	5	5	0	3	8	0	5	Apr 2, 1993	Sugarman et al.		
	AO	5	6	3	9	6	0	3	Jun 17, 1997	Dower et al.		
	AP	5	6	6	5	9	7	5	Sep 9, 1997	Kedar et al.		
	AQ	5	7	0	8	1	5	3	Jan 13, 1998	Dower et al.		
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1	AS	5	7	8	9	1	6	2	Aug 4, 1998	Dower et al.		
	AT	6	0	5	6	9	2	6	May 2, 2000	Sugarman et al.		July 23, 199
	AU	6	1	4	0	4	9	3	Oct 31, 2000	Dower et al.		Sept 11, 199
-	AV	6	1	4	3	4	9	7	Nov 2, 2000	Dower et al.		Mar 6, 1998
	AW	6	1	6	5	7	1	7	Dec 26, 2000	Dower et al.		May 13, 199
	AX	6	1	6	5	7	7	8	Dec 26, 2000	Kedar et al.		Jul 2, 1998
	AY	6	4	1	6	9	4	9	July 9, 2002	Dower et al.		Feb 24, 1999
	AZ	5	5	7	3	9	0	5	Nov. 12, 1996	Lerner, RL et al.		
-	BA	5	7	2	3	5	9	8	Mar 3, 1998	Lemer, RL et al.	_	
	BB	6	0	6	0	5	9	6	May 9, 2000	Lerner, R et al.		Mar 3, 1998
	BC	4	8	2	2	7	3	1	April 18, 1989	Watson et al.		
	BD	6	2	9	7	0	5	3	October 2, 2001	Stemmer		
	BE	20	05	00	25	7	6	6	February 2, 2005	Liu et al.		
	BF	20	05	00	42	6	6	9	February 24, 2005	Liu et al.		
	BG	20	05	00	42	6	6	9	Published 24 February 2005	Liu, David R		
	ВН	20	05	00	25	7	6	6	Published 3 February 2005	Liu, David R		
1	BI	20	05	14	2	5	8	3	30 June 2005	Liu, David R		
HC/	BJ	20	05	17	0	3	7	6	4 Aug 2005	Liu, David R		
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DATE

Aug 6, 2002

Mar 27, 2001

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SUBSTITUT	E FOR FO	RM IF	C/SB/	08					ATTY DOCKET	NO: FRANCH=4A		SERIAL NO:	10/549,619
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									FILING DATE:	February 28, 2006		ART UNIT: 1	623
FOREIGN P	ATENT D	осим	ENTS	finclud	le at le	ast do	cumen	t numt	er, publication da	te and country)			
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/HC/	ВК	3	3	0	3	1	1	2	18 Feb 1993	PCT		00.00	
	BL	9	8	3	•	7	0	0	23 July 1998	PCT			
	ВМ	0	0	3	7	8	7	•	8 June 2000	PCT			
	BR	0	0	0	7	7	7	5	17 Aug 2000	PCT			
	ВО	5	5	0	5	7	в	9	31 May 1990	PCT			
	BP	5	3	2	4	6	1	6	19 July 1989	EP			
	BO	•	6	3	5	6	•	9	14 Nov 1996	PCT		ļ	
	BR	0	۰	•	•	•	0	5	27 October 1994	EP			
	BS	0	0	•	•	7	7	•	19 October 2000	PCT			
	ВТ	0	•	0	•	•	•	2	1 April 1993	EP			
	BU		6	•	2	6	6	в	11 May 1995	PCT			
	BV	0	7	7	3	2	2	7-	14 May 1997	EP.			
	BW	8	7	7	0	10	0	6	4 October	EP			
	BX		6	4	3	7	7	е	1996 14 Oct. 1993	EP	<del> </del>	<del> </del>	
	BY	0	8	2	3	4	5	6	27 April 2000	PCT		<del> </del>	
	BZ	a	2	ō	7	4	9	29	26 Sept 2002	PCT	1		
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	СВ	0	θ	5	6	0	0	4	17 Dec. 1998	PCT			
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	TM 2	02	•	0	2	θ	2	0	27 Dec 2002	PCT			
	TM 3	03	0	7	е	۰	2	•	25 Sept 2003	PCT			
	TM 4	20	04	01	3	0	7	٥	12 Feb 2004	PCT			
	TM 5	20	04	11	0	•	6	•	23 12 2004	PCT			
	TM 6	20	04	02	•	·	7	·	25 March 2004	PCT			
	TM 7	20	04	05	•	•	•	•	8 July 2004	PCT			
	TM 6	20	04	00	•	θ	•	°	29 Jan 2004	PCT			
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	TM 16	03	0	7	θ	•	4	°	25 Sept 2003	PCT			
	TM 17	03	0	7	θ	•	2	7	25 Sept 2003	PCT			
/HC/	TM 16	20	04	07	•	•	0	•	2 Sept 2004	PCT			
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EXAMINER: IHeather Calamita | DATE CONSIDERED | 12/16/2008 |
EXAMINER: Initial if reference considered. Draw line through citation if not in conformance <u>and</u> not considered. Include copy of this form with next communication to applicant.

													SHEET				
SUBSTITUTE	FOR FO	ORM IF	PC/SB/	80					ATTY DOCKET	NO: FRANCH=4A		SERIAL NO	: 10/549,619				
INFORMATION DISCLOSURE STATEMENT LIST OF DOCUMENTS CITED BY APPLICANT									FIRST INVENTOR: FRANCH, Thomas								
									FILING DATE:	February 28, 2006		ART UNIT:	1623				
FOREIGN PA	ATENT D	осим	ENTS	(includ	le at le	ast do	cumer	nt num	ber, publication da	te and country)							
/HC/	TM 19	20	04	07	4	4	2	9	2 Sept 2004	PCT							
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-	21 TM	20	05	00	3	7	7	1 8	13 Jan 2005	PCT	-		-				
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	CE	20	04	09	9	4	4	1	18 Nov 2004	PCT							
-	CF	03	0	8	2	9	0	1	9 Oct 2003	PCT	1		1				
	CG	9	1	0	5	0	5	8	18 April 1991	PCT							
	СН	9	6	0	9	3	1	6	March 28,	PCT	1		1				
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	J	0	0	2	1	9	0	9	April 20, 2000	PCT							
_	СК	9	9	5	1	7	7	3	Oct 14 1999	PCT	+	<u> </u>	<b></b>				
	CL	20	06	04	8	0	2	5	11 May 2006	PCT							
/JC/	GS	9	06	05	3	5	6	1 0	26 May 2006	PCT							
/HU/	ISR1	1 5	5	0	4	1	10	10	9 Feb. 1995	FOI		·					
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/HC/	СМ	prote	ein on	the rib	osome	in vitr	o". FE	BS Let	t. 1997 Sep 8:414	omycin at the 3'-terr (2):405-8.							
	CN	Rob	erts, R	W et a	I. "RN	A-pept	ide fus	ions fo	or the in vitro selec	tion of peptides and	proteins". Pr	oc Natl Acad S	ci U S A. 1997				
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CO Kurz, M et al. "An efficient synthetic strategy fo evolution protocols" Fourth International Electron							ematic	onal El	ectronic Conference	e on Synthetic Orga	anic Chemistr	y (ECSOC-4),					
	www.mdpl.org/ecsoc-4.htm, September 1-3						-cross	linked	mRNA-puromycin conjugates; a novel template for the rapid and facile preparation								
	CP	Kurz			atono	Nuclei	c Acid	s Res.	2000 Sep 15;28(1	8):E83.							
		mRt	NA-pro	tein fu	SIUIIS.	CQ Keiler et al. "Role of a peptide tagging syste 1996 Feb 16;271(5251):990-3.						tem in degradation of proteins synthesized from damaged messenger RNA*. Science					
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/-		DC	Lewis RJ, Hanawalt PC. "Ligation of oligonucleon	btides by pyrimidine dimers—a missing 'link' in the on of oligodeoxyribonucleotides via 4-thiothymidir	origin of life?"22;298(5872):393-6.					
		DD	1:26(13):3300.4							
	П	DE	5646-5647	ole ligation of deoxyoligonucleolides via 5-Vinylde	eoxyuridine" J. Am. Soc. 2000, 122,					
		DF	Kenzo Fujimoto, Shigeo Matsuda, Naoki Ogawa "Template-directed reversible photocircularization TETRAHEDRON LETTERS 2000, 41:33:6451-	on of DNA via 5-vinyldeoxycytidine". 6454						
		DG	Kenzo Fujimcto, Naoki Ogawa, Masayuki Hayashi, Shigeo Matsuda & Isao Saito "Template directed photochemical synthesis of branched ollgodeoxynucleotides via 5-carboxyvinyldeoxyuridine". Tetrahedron le							
		DI	2909-0	otides in the presence and absence of a templat						
		DI	groupe" Nuclaic Acide Res 1993 Mar 25:21(6):	ed coupling and recombination of oligonucleotide 1403-8						
		DI	Gryaznov SM, Schultz R, Chaturvedi SK, Letsin	ger RL. "Enhancement of selectivity in recognition 2(12):2366-9.						
_	$\vdash$	DK	Herrlein MK, Letsinger RL. "Selective chemical 25;22(23):5076-8	autoligation on a double-stranded DNA template	". Nucleic Acids Res. 1994 Nov					
_	H	DI	Letsinger, RL; Wu, T; Elghanian, R "Chemical a 16(5&6), 643-652 (1997)	and photochemical ligation of oligonucleotide blo	cks". Nucleosides and nucleotides,					
	П	DM	Visscher J, Schwartz AW "Template-directed sy J Mol Evol. 1988 Dec-1989 Feb;28(1-2):3-6.							
	П	DN	Science. 1989 Apr 21;244(4902):329-31.	vartz AW "Template-directed oligomerization cata						
	П	DM	linkage specificity". Orig Life Evol Biosph. 1989							
	П	DP		n through template-directed synthesis". J. Am. Ch						
		DN	aqueous solution Nucleic Acids Res". 1997 Ma							
	П	DN	Albagli, D; Atta, RVA; Cheng, P; Huan, B and V oligonucleotide-based system" J. Am. Chem. S	Vood, ML. "Chemical amplification (CHAMP) by toc. 1999, 121, 6954-6955. Pub. on the web 14 J	a continuous, self-replicating uly 1999.					
	П	DS	Xu, Y and Kool, E *Rapid and Selective seleniu on web 08/31/2000.	m-mediated autoligation of DNA strands" J. Am.	Chem. Soc. 2000, 122, 9040-1 Pub.					
		DT	Biotechnol. 2001 Feb;19(2):148-52.	toligation in direct three-color detection of RNA a						
$\vdash$	Н	DU		zed polymerization". J Am Chem Soc. 2002 Feb						
$\vdash$	$\vdash$	DV	Son 5:123/35)-8618-0 published on the web 08	I template-directed assembly of metallosalen-DN 8/10/2001						
Г		DW	Leitzel JC, Lynn DG "Template-directed ligation Published online 30 Jan 2001.	n: from DNA towards different versatile templates						
		DX	Acids Res. 1997 Dec 1;25(23):4792-4796.	n transfer from DNA to peptide nucleic acids by t						
/}	IC/	DY	DOWER, WJ et al. "in vitro selection as a pow Chemical Biology, 2002, 6:390-398.	erful tool for the applied evolution of proteins and	d peptides".Current Opinion in					
i —	AMIN	en.	/Heather Calamita/	DATE CONSIDERED 12/	16/2008					

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/H											
		EA	2001 Jul 18;123(28):6961-3.	olated synthesis as a basis for evolving non-natural							
1	$\top$	EB	David Liu. "Expanding the reaction scope of DNA-templated synthesis Angew", Chem. Int. Ed. 2002, 41, No. 10 pp. 1796-1800. Published May 15, 2002. Gartner, Zi et al. "Mulistap small-molecule synthesis programmed by DNA templates", J. AM. CHEM. SOC. Vol. 124, No. 35, 2002.								
$\Box$		EC	10304-10306.								
$\exists$	1	ED	Angew Chem Int Ed, 2002, 41, No. 21, 4104-41								
1	1	EB		vances in the in vitro evolution of nucleic acids". Cu March 2002.							
	7	EF	Summerer, D and Marx, A "DNA-templated synti	hesis: more versatile than expected". Angew Chem							
		EG		or DNA-templated organic synthesis ". Angew. Che							
		EH	J. AM. CHEM. SOC. Vol. 125, No. 46, 2003, 13								
		El	Li, X et al. "Stereoselectivity in DNA-templated organic synthesis and its origins". J. AM. CHEM. SOC. Vol. 125, No. 34, 2003, 10188-10189.								
		EJ	10189. Gordon, EM et al. "Applications of combinatorial technologies to drug discovery, Z. Combinatorial organic synthesis, library screening strategies, and future directions". Journal of Medicinal Chemistry, Vol. 37, No. 10, May 13, 1994. TOR. S et al. S'Recent developments in dynamic combinatorial relemistry. Current opinion in Chemical Biology 2002, 6: 221-327.  Otto, S et al. S'Recent developments in dynamic combinatorial relemistry. Current opinion in Chemical Biology 2002, 6: 221-327.								
	4	EK									
	$\dashv$	EM	Pavia, MR. "The Chemical generation of molecular diversity". http://www.netsci.org/Science/Combichem/feature01.html Braun, E, et al. "DNA-templated assembly and electrode attachment of a conducting silver wire". Nature, Vol. 391, 19 February 1998,								
1		EN	775-776.  Tanaka, K et al. "Synthesis of a novel nucleoside for alternative DNA base pairing through metal complexation" J. Org. Chem. 1999, 84, 5002-5003.								
7		EO	Beger, M et al. "Universal bases for hybridization	on, replication and chain termination*, Nucleic acid							
		EP	05 0 2004 402 2275 2276	a novel building block for modifying DNA with intra							
		EO	N: 00 4740 4757	ign strategy for DNA computing on surfaces". Nucl							
		ER ES	Loweth, CJ et al. "DNA-based assembly of gold	d nanocrystals". Angew. Chem. Int. Ed. 1999, 38, No. 1999,	endent optical properties of gold						
		ES									
		ET			4;99(7):1849-1862.						
		EU		- and three-dimensional architectures with DNA an 8-72.							
		EV	Waybright SM, Singleton CP, Wachter K, Murphy CJ, Bunz UH. "Oligonucleotide-directed assembly of materials: defined disjointers 1. September 2018 (1997) (2018) 18-12-12-12-12-12-12-12-12-12-12-12-12-12-								
		EW	Bruce Smith and Markus Krummenacker "DNA-guided assembly of proteins as a pathway to an assembler, and the strength of the str								
$\vdash$		EY	DeWitt, SH et al. "Diversomers"; an approach to nonpeptide, nonoligoment chemical diversity . Proc. Nati. Acad. 361, 363, 361, 361, 361, 361, 361, 361,								
		EY	Nielsen, J et al. "Synthetic methods for the implementation of encoded combinatorial chemistry". J. Am. Chem. Soc. 1993, 115, 9812-								
		EZ	Ohlmeyer, MHJ et al. "Complex synthetic chemical libraries indexed with molecular tags". Proc. Natl. Acad, Sci, USA, Vol. 90, pp.								
		FA	Zuckermann, RN et al. "Discovery of nanomol	ar ligands for 7-transmembrane G-protein-coupled Chem. 1994, 37, 2678-2685.							
		FB	Luo, P et al. "Analysis of the structure and stal	bility of a backbone-modified oligonucleotide: impli							
		FC	Luther, A et al. "Surface-promoted replication	and exponential amplification of DNA analogues".							
74	IC/	FD	Klekota, B et al. "Selection of DNA-Binding Co	ompounds via Multistage Molecular Evolution". Teti							
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FF   Furlan, R.E. et al. "Molecular amplification in a dynamic combinatorial library using non-covalent interactions". Chem. Commun., 2000, 1761-1762.				FILING DATE: February 28, 2006	ART UNIT: 1623					
FF   Furlan, R.E. et al. "Molecular amplification in a dynamic combinatorial library using non-covalent interactions". Chem. Commun., 2000, 1761-1762.	OTHER	DOCUM	ENTS (include author, title, name of publication	, volume, pages and date of publication)	-					
FF Ramstrom, O et al. "in situ generation and screening of a dynamic combinatorial carbohydrate library against concavatelin".  FG Cousins, GRIL et al. "Identification and Isolation of a Receptor for N-Methyl Alkylammonium Salts: Molecular Amplification in a Peaudo-peptide Dynamic Combinatorial Library." Angew. Chem. Int. Ed., 2001, 40, No. 2, 423-427.  FH Roberts, Si et al. "Simulaneous selection, amplification and solation of a pseudo-peptide receptor by an immobilised N-methyl Dynamic Combinatorial Library." Angew. Chem. Int. Ed., 2001, 40, No. 2, 423-427.  FF Dyorn, J. B at II. "Highly sensible in vitro selections for DNA-limited synthesis and in vitro selection in high specificity" J. AM. CHEM, SOC, September 16, 2003.  FK Raman, MW et al. "Reaction discovery enabled by DNA-templated synthesis and in vitro selection" Nature, Vol. 431, 30 September 2004.  FK Asnan, MW et al. "Reaction discovery enabled by DNA-templated synthesis and in vitro selection" Nature, Vol. 431, 30 September 2004.  FK Simulaneous and State of S			Furlan, RLE et al. "Molecular amplification in a c	lynamic combinatorial library using non-covalent int	eractions". Chem. Commun., 2000,					
FG Cousins, GRL et al. "Identification and isolation of a Receptor for N-Methyl Alkylammonium Salts: Molecular Amplification in a Peaudo-peptide Pymanic Comminionated Library", Angew. Chem. Int. Ed., 2001, 40, No. 2, 423-427.  FH Roberts, Si et al. "Simulatineous selection, amplification and isolation of a pseudo-peptide receptor by an immobilised N-methyl ammonium to immobilised in templates", Carlos Commun., 2002, 288-509.  FJ Roberts, Si et al. "Simulatineous selection, amplification and isolation of a pseudo-peptide receptor by an immobilised N-methyl ammonium to international control of the process of the pro		FF	Ramström, O et al. "In situ generation and screening of a dynamic combinatorial carbohydrate library against concanavalin A".							
Pseudo-peptide Dynamic Combinatorial Library* Angew. Chem. Int. Ed., 2001. 40, No. 2, 423-427.  FH Roberts, St et al. "Simultaneous selection, amplification and isolation of a pseudo-peptide receptor by an immobilised N-methyl ammonium ion template* Chem. Commun., 2002, 938-939.  FD Dyon, J. B et al. "Highly sensitive in vitro selections for DNA-linked synthetic small molecules with protein binding affinity and specificity." J. Mr. CHEM. SOC. September 12, 2005.  FK Scholary J. Mr. CHEM. SOC. September 12, 2006.  FK Scholary J. Mr. CHEM. SOC. September 12, 2007.  FK Scholary J. Mr. CHEM. SOC. September 12, 2007.  FK Scholary J. Mr. CHEM. SOC. September 12, 2007.  FK Scholary J. Mr. CHEM. Soc. September 12, 2007.  FK Scholary J. Mr. CHEM. Soc. September 12, 2007.  FK Scholary J. Mr. CHEM. Soc. September 12, 2007.  FK Scholary J. Mr. CHEM. Soc. September 12, 2007.  FN Nucleus*, January 2004, Vol. LOXGII, No. 5, R. Grubins, "Summer Research Report: R. Grubina on DNA Templated Synthesia in the September 12, 2007.  FN Nucleus*, January 2004, Vol. LOXGII, No. 5, R. Grubins, "Summer Research Report: R. Grubina on DNA Templated Synthesia in the September 12, 2007.  FN Nucleus*, January 2004, Vol. 96, p459-464, January 1999.  FO Chan et al., "Intra-RNA distance measurements for nucleocapsid protein-dependent IRNA unwinding during priming of HIV reverse transcription*, PNAS Vol. 96, p459-464, January 1999.  FN Chan et al., "Intra-RNA distance measurements for nucleocapsid protein-dependent IRNA unwinding during priming of HIV reverse transcription*, PNAS Vol. 96, p459-464, January 1999.  FN Chan et al., "Intra-RNA distance and seasing for the evolution of synthesis molecules, ABSTRACTS OF PAPERS OF THE AMERICAN CHEMICAL SOCIETY; 225, 612-CHEM, Part 2, MARX 2003  FK Rodrigues et al., "Intra-RNA distance and a spaneories "Forhosphate covalently staticated to an oligodeoxycytidylate template", Abstract et al., "Template-directed synthesis on a basis for the evolution of synthesis molecules and synthesis and selection state	-	FG	Cousins, GRL et al. "Identification and Isolation of a Receptor for N-Methyl Alkylammonium Salts: Molecular Amplification in a							
ammonium ion template* Chem. Commun., 2002, 938-938.  FF Doyon, J.B. et al. "Highly sensitive in vitro selections for DNA-limed synthetic small molecules with protein binding affinity and specificity* J. AM. CHEM. SCC, September 16, 2003.  Kanan, M.W. et al. "Reaction discovery enabled by DNA-lemplated synthesis and in vitro selection* Nature, Vol. 431, 30 September 2004, Vol. AM. CHEM. SCC, September 16, 2003.  FK Finding reactions in a haystack: Try'em all, see what works* Meeting American Chemical Society, 10 September 2004, Vol. LOSOI, No. 5, R. Grubina; "Summer Research Report: R. Grubina on DNA Templated Synthesis of the Nucleus," January 2004, Vol. LOSOI, No. 5, R. Grubina; "Summer Research Report: R. Grubina on DNA Templated Synthesis of Small Molecule Ubrary," 1910-14  FM Nazarenko et al., "A closed tube format for amplification and detection of DNA based on energy transfer, Nucleic Acids Research, 1997, Vol. 25, No. 12, p251-62521  FN Nazarenko et al., "A closed tube format for amplification and detection of DNA based on energy transfer, Nucleic Acids Research, 1997, Vol. 25, No. 12, p251-62521  FN Chan et al., "Intra-IRNA distance measurements for nucleocopaid protein-dependent tRNA unwinding during priming of HIV reverse transcription," PNAS Vol. 96, p945-9464, January 1999.  FO Lu DR ET AL., DNA-templated synthesis as a basis for the evolution of synthetic molecules, ABSTRACTS OF PAPERS OF THE AMERICAN CHEMICAL SOCIETY 225: 612-6046, Part 2, Med 2009.  FN AMERICAN CHEMICAL SOCIETY 225: 612-6046, Part 2, Med 2009.  FN AMERICAN CHEMICAL SOCIETY 225: 612-6046, Part 2, Med 2009.  FN AMERICAN CHEMICAL SOCIETY 225: 612-6046, Part 2, Med 2009.  FN Picciffli, "RNA seeks its maker," Nature vol. 376, 17 August 1995, p546-  FR Picciffli, "RNA seeks its maker," Nature vol. 376, 17 August 1995, p546-  FR Picciffli, "RNA seeks its maker," Nature vol. 376, 17 August 1995, p546-  FN Halpin et al.: DNA display II. Genetic manipulation of combinatorial chemistry libraries for small-molecule evolution.  FLOS Biol. 20		1	Pseudo-peptide Dynamic Combinatorial Library	'. Angew. Chem. Int. Ed., 2001, 40, No. 2, 423-427.						
specificity J. AM. ChiEnk. SOC, September 16, 2003.  F.J. Kanan, M.W. et al. "Reaction discovery enabled by DNA-templated synthesis and in vitro selection" Nature, Vol. 431, 30 September 2004.  F.K. Finding reactions in a haystack: Try'em all, see what works" Meeting American Chemical Society, 10 September 2004, Vol. 305, Science.  F.H. The manufacture of the properties			ammonium ion template". Chem. Commun., 200	02, 938-939.						
FK Finding reactions in a haystack: Try'em all, see what works' Meeting American Chemical Society, 10 September 2004, Vol. 305, Science.  FI Finding reactions in a haystack: Try'em all, see what works' Meeting American Chemical Society, 10 September 2004, Vol. 305, Science.  Finding reactions in a haystack: Try'em all, see what works' Meeting American Chemical Society, 10 September 2004, Vol. 1, 2003, Science.  Finding reactions are seen as a second control of the second control		FF	specificity" J. AM. CHEM. SOC, September 16,	2003.						
FK Sighting reactions in a haystack. Try'em all, see what works* Meeting American Chemical Society, 10 September 2004, Vol. 305, Science.  FL Sighting Sight		FJ		by DNA-templated synthesis and in vitro selection"	Nature, Vol. 431, 30 September					
FL The Nucleus*, January 2004, Vol. LXXXII, No. 5, R. Grubins*, "Summer Research Report R. Polutina on DNA Templated Synthesia FM Nazarenko et al.," A closed tube format for amplification and detection of DNA based on energy transfer*, Nucleic Acids Research, 1997, Vol. 26, No. 12, 251-5223.  FM Nazarenko et al., "Intra-SRNA distance measurements for nucleocapsid protein-dependent tRNA unwinding during priming of HIV reverse transcription", PNAS Vol. 69, pp. 595-5464, January 1999. FN Chan et al., "Intra-SRNA distance measurements for nucleocapsid protein-dependent tRNA unwinding during priming of HIV reverse transcription", PNAS Vol. 69, pp. 595-5464, January 1999. FN Chan et al., "Intra-SRNA distance measurements for nucleocapsid protein-dependent tRNA unwinding during priming of HIV reverse transcription", PNAS Vol. 69, pp. 595-5464, January 1999. FN Chan et al., "Intra-SRNA distance measurements of the PNAS Vol. 69, pp. 595-5464, January 1999. FN Chan et al., "Englist-directed defendence of Nail Park 2004. FN Rodriguez et al., "Template-directed defendence of Nail Park 2004. FN Rodriguez et al., "Template-directed defendence of protein-decide add-like structures", Science 1985, 228, 585-7 FN Plocifilli, "RNA seeks its maker", Nature vol. 376, 17 August 1995, p546- FN A. W., Schwartz et al., "Template-directed synthesis of novel, nucleic add-like structures", Science 1985, 228, 585-7 Halpin et al.: DNA display II. Genetic manipulation of combinatorial chemistry libraries for small-molecule evolution. FLOS Biol. 2004 Jul 2012 FLT Explus 2004 J		FK	"Finding reactions in a haystack: Try'em all, see	what works" Meeting American Chemical Society,	10 September 2004, Vol. 305,					
FM Nazarenko et al., "A closed tube format for amplification and detection of DNA based on energy transfer", Nuclea Acids Research, 1987, Vol. 25, No. 12, p2514-25281  FN Chan et al., "Intra-IRNA distance measurements for nucleocopaid protein-dependent tRNA unwinding during priming of HIV reverse transcription", PNAS Vol. 98, p459-464, January 1999.  FO Liu DR ET AL., DNA-templated synthesis as a basis for the evolution of synthetic micleules, ABSTRACTS OF PAPERS OF THE AMERICAS (CHEMICAL). SOCIETY 225: 612-6746, Part 2, MAY 2002.  FO Liu DR ET AL., DNA-templated synthesis as a basis for the evolution of synthetic micleules, ABSTRACTS OF PAPERS OF THE AMERICAS (CHEMICAL). SOCIETY 225: 612-6746, Part 2, MAY 2002.  FK MAERICAS (CHEMICAL). SOCIETY 225: 612-6746, Part 2, MAY 2002.  FK ALL STANDAR (CHEMICAL). SOCIETY 225: 612-6746, Part 2, MAY 2002.  FK Acevedo et al., "Template-directed originour-decided ligation on phytroxylepatier", Nature vol. 321, 19 June 1995, p790-792.  FR Piciorilli, "RNA seeks its maker", Nature vol. 376, 17 August 1995, p549-  FS A. W. Schwartz et al., "Template-directed synthesis of novel, nucleic acid-like structures", Science 1995, 228, 595-7.  FT Halpin et al.: DNA display III. Solid-phase organic synthesis on unprotected DNA.  FY LoS Biol. 2004 Jul;27(E1715, Epub 2004 Jun 2 and 2014 por 2014 part 2		FL	"The Nucleus", January 2004, Vol. LXXXII, No. 5	5, R. Grubina; "Summer Research Report: R. Grubi	na on DNA Templated Synthesis					
FN Chan et al., "Intra-IRNA distance measurements for nucleocapsid protein-dependent IRNA unwinding during priming of HIV reverse transcription," PNAS Vol. 96, 9459-464, January 1999.  FO Liu DR ET AL., DNA-templated synthesis as a basis for the evolution of synthetic molecules, ABSTRACTS OF PAPERS OF THE AMERICAN CHEMICAL SOCIETY, 225: 612-616N, Part 2, MAR 2003  FR. Rodriguez et al., "Templated circled deviation of a guanosine 5-phosphate covalently attached to an oligodeoxycyldysta template", John Evol (1991) 33:477-48.  FR. Rodriguez et al., "Templated circled dynamics of the provision of a guanosine 5-phosphate covalently attached to an oligodeoxycyldysta template", John Evol (1991) 33:477-48.  FR. Priccitili, "FINA seets its maker", Nature vol. 376, 17 August 1995, p549-  FR. Priccitili, "FINA seets its maker", Nature vol. 376, 17 August 1995, p549-  FR. Priccitili, "FINA seets its maker", Nature vol. 376, 17 August 1995, p549-  FR. Priccitili, "FINA seets its maker", Nature vol. 376, 17 August 1995, p549-  FR. Priccitili, "FINA seets its maker", Nature vol. 376, 17 August 1995, p549-  FR. Priccitili, "FINA seets its maker", Nature vol. 376, 17 August 1995, p549-  FR. Priccitili, "FINA seets its maker", Nature vol. 376, 17 August 1995, p549-  FR. Priccitili, "FINA seets its maker", Nature vol. 376, 17 August 1995, p549-  FR. Priccitili, "FINA seets its maker", Nature vol. 376, 17 August 1995, p549-  FR. Priccitili, "FINA seets its maker", Nature vol. 376, 17 August 1995, p549-  FR. Priccitili, "FINA seets its maker", Nature vol. 376, 17 August 1995, p549-  FR. Priccitili, "FINA seets its maker", Nature vol. 376, 17 August 1995, p549-  FR. Priccitili, "FINA seets its maker", Nature vol. 376, 17 August 1995, p549-  FR. Priccitili, "FINA seets its maker", Nature vol. 376, 17 August 1995, p549-  FR. Priccitili, "FINA seets its maker", Nature vol. 376, 17 August 1995, p549-  FR. Priccitili, "FINA seets its maker", Nature vol. 376, 17 August 1995, p549-  FR. Priccitili, "FINA seets its maker", Nature vol. 376,		FM	Nazarenko et al., "A closed tube format for amp	lification and detection of DNA based on energy train	nsfer", Nucleic Acids Research,					
FO Liu DR ET AL., DNA-templated synthesis as a basis for the evolution of synthetic molecules, ABSTRACTS OF PAPERS OF THE AMERICAN CHEMICAL SOCIETY, 225, 612-05(N, Part 2, MAR 2003)  FR Rodriguez et al., "Template-directed extension of a guanosine 5"-phosphate covalently attached to an oligodeoxycytidylate template", J Mol Evol (1991) 33:477-482  FQ Aceved et al., "Template-directed extension of a guanosine 5"-phosphate covalently attached to an oligodeoxycytidylate template", J Mol Evol (1991) 33:477-482  FQ Aceved et al., "Template-directed extension of a guanosine 5"-phosphate vol. 321, 19 June 1986, p790-792  FR Prociniii, "RNA seeks list maker, flature vol. 321, 71 August 1955, 248.  FR Prociniii, "RNA seeks list maker, flature vol. 370, 77 August 1955, 248.  FS Prociniii, "RNA seeks list maker, flature vol. 370, 77 August 1955, 248.  FS Prociniii, "RNA seeks list maker, flature vol. 321, 78 June 1955, 248.  FS Prociniii, "RNA seeks list maker, flature vol. 321, 78 June 1955, 248.  FS Prociniii, "RNA seeks list maker, flature vol. 321, 78 June 1955, 248.  FS Prociniii, "RNA seeks list maker, flature vol. 321, 78 June 1955, 248.  FV Halpin et al.: DNA display II. Genetic manipulation of combinatorial chemistry libraries for small-molecule evolution.  FV Halpin et al.: DNA display II. Sequence-encoded routing of DNA populations.  FV Halpin et al.: DNA display II. Sequence-encoded routing of DNA populations.  FV Halpin et al.: DNA display II. Sequence-encoded routing of DNA populations.  FV Halpin et al.: DNA display II. Sequence-encoded routing of DNA populations.  FV Halpin et al.: DNA display II. Sequence-encoded routing of DNA populations.  FV Halpin et al.: DNA display II. Sequence-encoded routing of DNA populations.  FV Halpin et al.: DNA display II. Sequence-encoded routing of DNA populations.  FV Halpin et al.: DNA display II. Sequence-encoded routing of DNA populations.  FV Halpin et al.: DNA display III. Sequence-encoded routing of Macera Encoded Reader III. Sequence Programmed Synthetic III. Sequen		FN	Chan et al., "Intra-tRNA distance measurements	s for nucleocapsid protein-dependent tRNA unwindi v 1999	ng during priming of HIV reverse					
FK Rodriguez et al., "Template-directed extension of a guanosine 5'-phosphate covalently attached to an oligodeoxycity/ate template", JMol Evol (1991) 33:477-482 FQ Aceved et al., "Template-directed oligonudeotide ligation on hydroxylepatite", Nature vol. 321, 19 June 1986, p790-792 FR Plocitilli, "RNA seeks lat maker", Nature vol. 376, 17 August 1995, p549- FR Plocitilli, "RNA seeks lat maker", Nature vol. 376, 17 August 1995, p549- FR Plocitilli, "RNA seeks lat maker", Nature vol. 376, 17 August 1995, p549- FR Haipin et al.; DNA display II. Solic-phase organic synthesis on unprotected DNA. FFH Haipin et al.; DNA display II. Solic-phase organic synthesis on unprotected DNA. FL Haipin et al.; DNA display II. Solic-phase organic synthesis on unprotected DNA. FL Haipin et al.; DNA display II. Solic-phase organic synthesis on unprotected DNA. FL Haipin et al.; DNA display II. Senetic manipulation of combinatorial chemistry libraries for small-molecule evolution. FL Haipin et al.; DNA display II. Sequence-encoded routing of DNA populations. FV Haipin et al.; DNA display II. Sequence-encoded routing of DNA populations. FV Haipin et al.; DNA display II. Sequence-encoded routing of DNA populations. FV Haipin et al.; DNA display II. Sequence-encoded routing of DNA populations. FV Haipin et al.; DNA display II. Sequence-encoded routing of DNA populations. FV Haipin et al.; DNA display II. Sequence-encoded routing of DNA populations. FV Haipin et al.; DNA display II. Sequence-encoded routing of DNA populations. FV Haipin et al.; DNA display II. Sequence-encoded routing of DNA populations. FV Haipin et al.; DNA display II. Sequence-encoded routing of Macerial Reactivity Applied to Synthetic Molecules* II.; X; Liu, D. R. A. Rodriguez of DNA protection of a Library of Macrocycles* Gartner, Z. J.; Tse, B. N.; Grubina, R.; Doyon, J. B.; Snyder, T. M.; Liu, D. R. Science 303, 1801-1605 (2004). FV ToNA-Templated Organic Synthesis as a Model System for Ancient Translation* Calderone, C. T. and Liu, D. R. Curr. Opin. Chem. FV Lov	$\vdash$	FO	Liu DR ET AL., DNA-templated synthesis as a b	asis for the evolution of synthetic molecules, ABST	RACTS OF PAPERS OF THE					
FQ Aceved et al., "Template-directed oligonucleotide ligation on hydroxytapatite", Nature vol. 321, 19 June 1989, p760-792 FR Plocifilli, "RNA seeks its maker", Nature vol. 37, 17 August 1989, p546- FS A. W. Schwartz et al., "Template-directed synthesis of novel, nucleic acid-like structures", Science 1985, 228, 585-7 FT Halpin et al.: DNA display II. Science to synthesis on unprotected DNA. PLoS Biol. 2004. Jul; 2(7):E175. Epub 2004. Jun 22. FH. Halpin et al.: DNA display II. Science the manipulation of combinatorial chemistry libraries for small-molecule evolution. FV. Halpin et al.: DNA display II. Sequence-ancoded routing of DNA populations. FV. Halpin et al.: DNA display II. Sequence-ancoded routing of DNA populations. FV. Halpin et al.: DNA display II. Sequence-ancoded routing of DNA populations. FV. Halpin et al.: DNA display II. Sequence-ancoded routing of DNA populations. FV. Halpin et al.: TNA display II. Sequence-ancoded routing of DNA populations. FV. Halpin et al.: TNA display II. Sequence-ancoded routing of DNA populations. FV. Halpin et al.: TNA display II. Sequence-ancoded routing of DNA populations. FV. Halpin et al.: TNA display II. Sequence-ancoded routing of DNA populations. FV. Halpin et al.: TNA display II. Sequence-ancoded routing of DNA populations. FV. Halpin et al.: TNA display II. Sequence-ancoded routing of DNA populations. FV. Halpin et al.: TNA display III. Sequence-ancoded routing of DNA populations. FV. TNA Templated Organic Synthesis: Anatores Strategy for Controlling Chemical Reactivity Applied to Synthetic Molecules* III. X.; Liu, D. R. Annow. Chem. III. Ed. 43, 4849-4870 (2004). FV. TNA Templated Organic Synthesis: and Stelection of a Library of Macrocycles* Gardner, Z. J.; Tse, B. N.; Grubine, R.; Doyon, J. B.; Snyder, T. M.; Liu, D. R. Science 305, 1801-1805 (2004).  GA **Nucleic Acid - Emplated Synthesis as a Model System for Ancient Translation* Calderone, C. T. and Liu, D. R. Curr. Opin. Chem. Biol. 5, 645-653 (2004).  GC **Translating DNA into synthetic Molecules*, Davi		FK	Rodriguez et al., "Template-directed extension of	of a guanosine 5'-phosphate covalently attached to	an oligodeoxycytidylate template",					
FS   A. W. Schwartz et al., "Template-directed synthesis of novel, nucleic acid-files structures", Science 1985, 228, 589-7		FQ	Acevedo et al., "Template-directed oligonucleot	ide ligation on hydroxylapatite", Nature vol. 321, 19	June 1986, p790-792					
FT Halpin et al.: DNA display III. Solid-phase organic synthesis on unprotected DNA. PLoS Biol. 2004 Jul;2(*PETS*E, Epb 2004 Jul;2) FL Halpin et al.: DNA display II. Genetic manipulation of 20 combinatorial chemistry libraries for small-molecule evolution. PLoS Biol. 2004 Jul;2(*PETS*E, Epb 2004 Jul;2) FV Halpin et al.: DNA display II. Genetic manipulation or 20 mg of DNA populations. FV Halpin et al.: DNA display II. Sequence-encoded routing of DNA populations. FW Halpin et al.: DNA display II. Sequence-encoded routing of DNA populations. FW Halpin statis in Vitro Selections for DNA-Linked Synthetic Small Molecules with Protein Binding Affinity and Specificity Doyon, J. B.; Snyder, T. M.; Liu, D. R. J. Am. Chem. Soc. 125, 12372-12373 (2003). FX Translation of DNA into Synthetic N-Apolyoacolines** LI, X.; Tae, B. N.; Liu, D. R. J. Am. Chem. Soc. 126, 5990-5092 (2004). FY "DNA-Templated Organic Synthesis: Nature's Strategy for Controlling Chemical Reactivity Applied to Synthetic Molecules** LI, X.; Liu, D. R. Angew. Chem. Int. Ed. 43, 4664-4670 (2004). FY "DNA-Templated Organic Synthesis: Nature's Strategy for Controlling Chemical Reactivity Applied to Synthetic Molecules** LI, X.; Liu, D. R. Angew. Chem. Int. Ed. 43, 4664-4870 (2004). FY "DNA-Templated Organic Synthesis and Selection of Code).  GA "Nucleic Addit-Templated Synthesis and Selection of Code).  GA "Nucleic Addit-Templated Synthesis as a Model System for Ancient Translation* Calderone, C. T. and Liu, D. R. Curr. Opin. Chem. Biol. 5, 645-653 (2004).  GB "DNA-Templated Functional Group Transformations Enable Sequence-Programmed Synthesis Using Small-Molecule Reagents* Sakural, K.; Snyder, T. M.; Liu, D. R. J. Am. Chem. Soc. 127, 1666-1661 (2005).  GC "Translating DNA into synthetic Molecules*, David R. Liu, PLoS Biology, July 2004, Vol 2, iss. 7, p805-6.  GC "Translating DNA into synthetic Molecules*, David R. Liu, PLoS Biology, July 2004, Vol 2, iss. 7, p805-6.  GC Website of Prof. David R. Liu, publicly available to Prof. David R. Liu, Liu publicly a					1005 000 505 7					
PLOS BIol. 2004 Jul;2(7):E175. Epub 2004 Jun 22.  FL Halpin et al: DNA display It, Genetic maniputation of combinatorial chemistry libraries for small-molecule evolution.  PLOS Biol. 2004 Jul;2(7):E175. Epub 2004 Jun 22.  Halpin et al: DNA display It, Sequence-encoded routing of DNA populations.  PLOS Biol. 2004 Jul;2(7):E175. Epub 2004 Jun 22.  Halpin et al: DNA display It, Sequence-encoded routing of DNA populations.  PLOS Biol. 2004 Jul;2(7):E175. Epub 2004 Jun 22.  FW Tarislation of DNA into Synthetic Nacytoxacolidines* LI, X.; Gartner, Z. J.; Tse, B. N.; Liu, D. R. J. Am. Chem. Soc. 126, 12372-12373 (2003).  FX Translation of DNA into Synthetic Nacytoxacolidines* LI, X.; Gartner, Z. J.; Tse, B. N.; Liu, D. R. J. Am. Chem. Soc. 126, 5090-5092 (2004).  FY "DNA-templated Organic Synthesis: Nature's Strategy for Controlling Chemical Reactivity Applied to Synthetic Molecules* LI, X.; Liu, D. R. Angew. Chem. Int. Ed. 34, 4846-4870 (2004).  FZ "DNA-templated Organic Synthesis and Selection of a Library of Macrocycles* Gartner, Z. J.; Tse, B. N.; Ghina, R.; Doyon, J. B.; Swyder, T. M.; Liu, D. R. D.; Alexee D. 305, 1601-1605 (2004).  GA "Nucleic Acid-Templated Synthesis as a Model System for Ancient Translation* Calderone, C. T. and Liu, Dr. R. Jones D. St. Destable Control Translations Enable Sequence-Programmed Synthesis Using Small-Molecule Reagents* DNA-templated Fig. M.; Liu, D. R. J. Am. Chem. Soc. 127, 1660-1661 (2005).  GB "DNA-templated Fig. M.; Liu, D. R. J. Am. Chem. Soc. 127, 1660-1661 (2005).  GC "Translating DNA into synthetic Molecules", David R. Liu, PLOS Biology, July 2004, Vol. 2, Iss. 7, p905-6.  GC "Translating Biology, Report Cleared Synthesis Using Small-Molecule Reagents* Only the Synthesis Biology, Report Cleared Synthesis Using Small-Molecule Reagents* Only the Synthesis Biology, Report Cleared Synthesis Using Small-Molecule Reagents* Only the Synthesis Control Biology, Report Cleared Synthesis Using Small-Molecule Reagents* Only the Synthesis Control Biology, Report Cleared Synthesis Cont	$\vdash$		A. W. Schwartz et al., "Template-directed synthe	esis of novel, nucleic acid-like structures", Science	1985, 228, 585-7					
PLOS Biol. 2004 Jul;27):E174. Epub 2004 Jun 22.  FV Halpin stal I.: DNA display I. Sequence-encoded routing of DNA populations.  FLOS Biol. 2004 Jul;27():E173. Epub 2004 Jun 22.  FW Halpin stal I.: DNA display I. Sequence-encoded routing of DNA populations.  FW Halpin stal I.: DNA display I. Sequence-encoded routing of DNA populations.  FW Halpin stal I.: DNA display I. Sequence-encoded routing of DNA populations.  FW Halpin stal I.: DNA display I. Sequence-encoded routing of DNA populations.  FX Halpin stal I.: DNA J. DNA display I. Sequence-encoded routing of DNA probability of DNA populations.  FX To NA Templated Organic Synthesis in Statur's Strategy for Controlling Chemical Reactivity Applied to Synthetic Molecules* Li, X; Liu, D. R. Angew. Chem. Int. Ed. 34, 484-4970 (2004).  FY TONA-Templated Organic Synthesis and Selection of a Library of Macrocycles* Gartner, Z. J.; Tse, B. N.; Gribina, R.; Doyon, J. B.; Snyder, T. M.; Liu, D. R. D. Sequence 303, 1601-1605 (2004).  GA "Nucleic Acid-Templated Synthesis as a Model System for Ancient Translation* Calderone, C. T. and Liu, Dr. R. J. Gence 303, 1601-1605 (2004).  GB "Nucleic Acid-Templated Synthesis as a Model System for Ancient Translation* Calderone, C. T. and Liu, Dr. D. Chem. Bod. 15, 484-585 (2004).  GC "Translating DNA into synthetic Molecules", DNA into Chem. Soc. 127, 1660-1661 (2005).  GC "Translating DNA into synthetic Molecules", DNA into Chem. Soc. 127, 1660-1661 (2005).  GE Website of Prof. David R. Liu, publicly available 11 March 2000  GG Website of Prof. David R. Liu, publicly available 15 Cd 2000  GG Website of Prof. David R. Liu, publicly available 15 Cd 2000  GC Website of Prof. David R. Liu, publicly available 15 Cd 2000  GC Website of Prof. David R. Liu, publicly available 15 Cd 2000  GC Website of Prof. David R. Liu, publicly available 15 Cd 2000  GC Website of Prof. David R. Liu, publicly available 15 Cd 2000  GC Website of Prof. David R. Liu, publicly available 15 Cd 2000  GC Website of Prof. David R. Liu, publicly available 15 Cd 20			PLoS Biol, 2004 Jul;2(7):E175, Epub 2004 Jun	22.						
Pu.G. Biol. 2004. Jul; 2(7):E173. Epub 2004 Jun 22  FW Highly Semilier In Vitro Selections for DNA-Linked Synthetic Small Molecules with Protein Binding Affinity and Specificity' Doyon, J. B.; Snyder, T. M.; Liu, D. R. J. Am. Chem. Soc. 125, 12372-12373 (2003).  FX Translation of DNA into Synthetic N. Apolyxozolidines' Li, X.; Santher, Z. J.; Tse, B. N.; Liu, D. R. J. Am. Chem. Soc. 126, 5090-5092 (2004).  FY Co. American Committee of Synthesis: Nature's Strategy for Controlling Chemical Reactivity Applied to Synthetic Molecules' Li, X.; Liu, D. R. Angew. Chem. Int. Ed. 43, 4846-4970 (2004).  FZ To. A. American Committee of Synthesis: Nature's Strategy for Controlling Chemical Reactivity Applied to Synthetic Molecules' Li, X.; Liu, D. R. Angew. Chem. Int. Ed. 43, 4846-4970 (2004).  FZ To. A. American Chem. Int. Ed. 43, 4846-4970 (2004).  GA "Nucleic Acid-Templated Synthesis as a Model System for Ancient Translation" Calderone, C. T. and Liu, D. R., Curr. Opin. Chem. Biol. 5, 643-653 (2004).  GB "Nucleic Acid-Templated Synthesis as a Model System for Ancient Translation" Calderone, C. T. and Liu, D. R., Curr. Opin. Chem. Biol. 5, 643-653 (2004).  GB "Shavaria K.; Synder, T. M.; Liu, D. R. J. Am. Chem. Soc. 127, 1680-1661 (2003).  GC "Translating DNA into synthetic Molecules", David R. Liu, PLoS Biology, July 2004, Vol. 2, Iss. 7, 1905-6.  GC "Translating DNA into synthetic Molecules", David R. Liu, PLoS Biology, July 2004, Vol. 2, Iss. 7, 1905-6.  GC Website of Prof. David R. Liu, publicly available 11 March 2000  GF Website of Prof. David R. Liu, publicly available 15 Cod 2000  GG Website of Prof. David R. Liu, publicly available 15 Cod 2000  GK Website of Prof. David R. Liu, publicly available 15 Cod 2000  GK Website of Prof. David R. Liu, publicly available 15 Cod 2000  GK Website of Prof. David R. Liu, publicly available 15 Cod 2000  GK Website of Prof. David R. Liu, publicly available 15 Cod 2000  GK Website of Prof. David R. Liu, publicly available 15 Cod 2000  GK Website of Prof. David R. Liu, publicly av	П		Halpin et al.: DNA display II. Genetic manipulation of combinatorial chemistry libraries for small-molecule evolution.							
B., Snyder, T. M.; Liu, D. R. J. Am. Chem. Soc. 125, 12372-12373 (2003).  FX Translation of DNA Into Synthesis: Nature's Strategy for Controlling Chemical Reactivity Applied to Synthetic Molecules' LI, X.; Liu, D. R. J. Am. Chem. Soc. 126, 5090-5092 (2004).  FY "ONA-Templated Organic Synthesis: Nature's Strategy for Controlling Chemical Reactivity Applied to Synthetic Molecules' LI, X.; Liu, D. R. J. Am. Chem. Soc. 126, 4646-4570 (2004).  D. R. Angew. Chem. Int. Eds. 43, 4646-4570 (2004).  D. R. Angew. Chem. Int. Lid. 43, 4646-4570 (2004).  GA "Nucleic Acid-Templated Synthesis as a Model System for Ancient Translation" Calderone, C. T. and Liu, D. R. Curr. Opin. Chem. Biol. 5, 4645-653 (2004).  GA "Nucleic Acid-Templated Synthesis as a Model System for Ancient Translation" Calderone, C. T. and Liu, D. R. Curr. Opin. Chem. Biol. 5, 4645-653 (2004).  GB "That-Templated Functional Group Transformations Enable Sequence-Programmed Synthesis Using Small-Molecule Reagents" Sakursi, K.; Snyder, T. M.; Liu, D. R. J. Am. Chem. Soc. 127, 1660-1661 (2005).  GC "Translating DNA into synthetic Molecules", David R. Liu, PLoS Biology, July 2004, Vol 2, Iss. 7, p905-6.  GC "Translating DNA into synthetic Molecules", David R. Liu, PLoS Biology, July 2004, Vol 2, Iss. 7, p905-6.  GE Website of Prof. David R. Liu, publicly available in Soc. 2004.  GE Website of Prof. David R. Liu, publicly available in 50 cd 2000.  GG Website of Prof. David R. Liu, publicly available is 50 cd 2000.  GK Website of Prof. David R. Liu, publicly available 19 April 2001.  GL Website of Prof. David R. Liu, publicly available 15 Cd 2000.  GK Website of Prof. David R. Liu, publicly available 15 Cd 2000.  GK Website of Prof. David R. Liu, publicly available 15 Cd 2003.  GM Incuse 1at, "Gilpomerization of (Guanosinos 5'-phosphor)-z-methyrimidazolide on Poly(C), J. Mol. Biol. 1982, 162, 201-217  GM Incuse 1at, "Gilpomerization of (Guanosinos 5'-phosphor)-z-methyrimidazolide on Poly(C), J. Mol. Biol. 1993, 195, 259.  GP T. Incuse 1at, "An onencrymatic RNA pol			PLoS Biol. 2004 Jul;2(7):E173, Epub 2004 Jun	22						
C2004	П	FW	B.; Snyder, T. M.; Liu, D. R. J. Am. Chem. Soc.	125, 12372-12373 (2003).						
D. R. Angew. Chem. Int. Ed. 43, 4846-4870 (2004).  FZ "DNA-Templated Organic Synthesis and Selection of a Library of Macrocycles' Gariner, Z. J.; Tse, B. N.; Grubins, R.; Doyon, J. B.; Snyder, T. M.; Liu, D. R. Science 305, 1801-1605 (2004).  GA "Nucleic Acid-Templated Synthesis as a Model System for Ancient Translation" Calderone, C. T. and Liu, D. R. Curr. Opin. Chem. Nucleic Acid-Templated Synthesis as a Model System for Ancient Translation" Calderone, C. T. and Liu, D. R. Curr. Opin. Chem. 1701-1701 (1997).  GB "Stakural, K.; Snyder, T. M.; Liu, D. R. J. Am. Chem. Soc. 127, 1866-1681 (2005).  GC "Translating DNA into synthetic Molecules", David R. Liu, PLoS Biology, July 2004, Vol 2, Iss. 7, p905-6.  GO "The Development of Amplitable and Evolvable Unnatural Molecules, "David R. Liu, Harvard Univ. Cambridge MA Dept of Chemistry and Chemical Biology, Report dated 4 Aug 2003 No. A104614, approved for public release.  GE Website of Prof. David R. Liu, publicly available 15 Cet 2000  GS Website of Prof. David R. Liu, publicly available 15 Cet 2000  GL Website of Prof. David R. Liu, publicly available 15 Cet 2000  GL Website of Prof. David R. Liu, publicly available 15 Cet 2000  GK Website of Prof. David R. Liu, publicly available 15 Cet 2000  GK Website of Prof. David R. Liu, publicly available 15 Cet 2000  GK Website of Prof. David R. Liu, publicly available 15 Cet 2000  GK Website of Prof. David R. Liu, publicly available 15 Cet 2002  GK Website of Prof. David R. Liu, publicly available 15 Cet 2002  GK Website of Prof. David R. Liu, publicly available 15 Cet 2002  GK Website of Prof. David R. Liu, publicly available 15 Cet 2002  GK Website of Prof. David R. Liu, publicly available 15 Cet 2002  GK Website of Prof. David R. Liu, publicly available 15 Cet 2002  GK Website of Prof. David R. Liu, publicly available 15 Cet 2002  GK Website of Prof. David R. Liu, publicly available 15 Cet 2002  GK Website of Prof. David R. Liu, publicly available 15 Cet 2002  GK Website of Prof. David R. Liu, publicly available 15 Ce	П	1	(2004).							
FZ 'DNA-Templated Organic Synthesis and Selection of a Library of Macrocycles' Garfner, Z. J.; Tee, B. N.; Grubina, R.; Doyon, J. B.; Synder, T. M.; Liu, D. R. Science 305, 1601-1605 (2004).  GA 'Nucleic Acid-Templated Synthesis as a Model System for Ancient Translation' Calderone, C. T. and Liu, D. R. Curr. Opin. Chem. Biol. 5, 645-655 (2004).  GB 'DNA-Templated Function Comp. Transformations Enable Squerice Programmed Synthesis Using Small-Molecule Reagents' Tolk-Arremplated Function (100) (		FY	"DNA-Templated Organic Synthesis: Nature's S D. R. Angew. Chem. Int. Ed. 43, 4848-4870 (20	04).						
GA "Nucleic Acid-Templated Synthesis as a Model System for Ancient Translation" Caldecrone, C. T. and Llu, D. R. Curr. Opin. Chem. Biol. 6, 643-653 (2004).  GB "DNA-Templated Funcional Group Transformations Enable Sequence-Programmed Synthesis Using Small-Molecule Reagents" Sakural, K.; Synder, T. M.; Llu, D. R., J. Am. Chem. Soc. 127, 1660-1661 (2005). GC "Translating DNA into synthetic Molecules", David R. Llu, PLOS Bology, July 2004, Viú 2, Iss. 7, p805-6. GC "Translating DNA into synthetic Molecules", David R. Llu, PLOS Bology, July 2004, Viú 2, Iss. 7, p805-6. GC "Hamilating DNA into synthetic Molecules", David R. Llu, PLOS Bology, July 2004, Viú 2, Iss. 7, p805-6. GC Website of Prof. David R. Llu, publicly available 15 Cot 2000 GF Website of Prof. David R. Llu, publicly available 15 Cot 2000 GF Website of Prof. David R. Llu, publicly available 15 Cot 2000 GF Website of Prof. David R. Llu, publicly available 14 April 2001 GL Website of Prof. David R. Llu, publicly available 14 April 2001 GL Website of Prof. David R. Llu, publicly available 23 Sept 2001 GL Website of Prof. David R. Llu, publicly available 24 Sept. 2002 GK Website of Prof. David R. Llu, publicly available 15 Cot 2002 GK Website of Prof. David R. Llu, publicly available 15 Cot 2003 GM Incue et al., "Gligomerization of (Guanosine 5"-phosphor)-z-methylimindazolide on Poly(C), J. Mol. Biol. (1982), 162, 201-217 GN C. B. Chen et al., "Template-fueded synthesis on Oligodeoxycytidylate and Polydeoxycytidylate templates" J. Mol. Biol. 1985, 181, J. Mol. Evol. 184, 78 nonexymatic RNA polymerase model", Science 1983, 219, p859-962 GP T. Incue et al., "A nonexymatic RNA polymerase model", Science 1983, 219, p859-962 J. J. Ol. C. B. Chen et al., "Template-forced synthesis on on Gligodeoxycytidylate long", J. Mol. Biol. 1987, 197, p197-193 J. J. Ol. C. B. Chen et al., "Template-forced synthesis on on Oligodeoxycytidylate long", J. Mol. Biol. 1987, 197, p197-193 J. J. Ol. Co. (J. C. Bolier et al., "Template-forced synthesis on on Oligodeoxycytidylate long	$\Box$	FZ	"DNA-Templated Organic Synthesis and Select Snyder, T. M.; Liu, D. R. Science 305, 1601-160	ion of a Library of Macrocycles" Gartner, Z. J.; Tse, 05 (2004).						
G8		GA	"Nucleic Acid-Templated Synthesis as a Model	"Nucleic Acid-Templated Synthesis as a Model System for Ancient Translation" Calderone, C. T. and Liu, D. R. Curr. Opin. Chem.						
GC Translating DNA into synthetic Molecules*, David R. Liu, PLoS Biology, July 2004, Vol 2, Iss. 7, p905-6.  GO "The Development of Amplifiable and Evolvable Unnatural Molecules*, David R. Liu, Harvard Univ. Cambridge MA Dept of Chemistry and Chemical Biology, Report dated 4 Aug 2003 No. A104614, approved for public release.  GE Website of Prof. David R. Liu, publicly available 11 March 2000  GF Website of Prof. David R. Liu, publicly available 15 Cet 2000  GG Website of Prof. David R. Liu, publicly available 15 Cet 2000  GH Website of Prof. David R. Liu, publicly available 17 March 2001  GH Website of Prof. David R. Liu, publicly available 19 April 2001  GK Website of Prof. David R. Liu, publicly available 19 April 2001  GK Website of Prof. David R. Liu, publicly available 15 Cet 2002  GK Website of Prof. David R. Liu, publicly available 15 Cet 2002  GL Website of Prof. David R. Liu, publicly available 15 Cet 2002  GL Website of Prof. David R. Liu, publicly available 15 Cet 2003  GM Indue et al., "Tonjad-active 15 Cet 2003  GM Indue et al., "Tonjad-active-ded synthesis on Olipodocoxyclydylate and Polydocoxyclydiylate templates" J. Mol. Biol. 1985, 181, 271  GN C. B. Chen et al., "Template-directed synthesis on Olipodocoxyclydylate and Polydocoxyclydylate templates" J. Mol. Biol. 1985, 181, 271  GN F. Rich Book 1943, 38 2053  GP T. Indue et al., "A nonencymatic RNA polymerase model", Science 1983, 219, p859-962  GP C. B. Chen et al., "An open-cymatic Eranscription of an oliponuclostides", Nature 1995, 376, 578-581  JEXANDRER H. J. Parker C. Alamilla / DAXE CONSTDERED 12/16/2/GP		GB	"DNA-Templated Functional Group Transforma	tions Enable Sequence-Programmed Synthesis Usi em. Soc. 127, 1660-1661 (2005).	ing Small-Molecule Reagents"					
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GJ Website of Prof. David R. Liu, publicly available 24 Sept. 2002 GK Website of Prof. David R. Liu, publicly available 20 Nov 2002 GL Website of Prof. David R. Liu, publicly available 15 Oct 2003 GL Website of Prof. David R. Liu, publicly available 15 Oct 2003 GM Inoue et al., "Gligomertazion of (Cuanosine 5-Pposphor)-2-methylimidazolido on Poly(C), J. Mol. Biol. (1982), 162, 201-217 GN C. B. Chen et al., "Emplate-directed synthesis on Oligodeoxycytidylate and Polydeoxycytidylate templates" J. Mol. Biol. 1985, 181, 271 GO H. Rembold et al., "Single-strand regions of Poly(G) act as templates for oligo(C) synthesis" J. Mol. Biol. 1994, 39, 205. GP T. Inoue et al., "A nonenzymatic RNA polymerase model", Science 1983, 219, p859-86 GO C. L. Acevedo et al., "Non-erymatic transcription of an oligonucleotide 14 residues long", J. Mol. Biol. 1987, 197, p187-193 (HC)I GP C. Böhler et al., "Template switching between PNA and RNA oligonucleotides", Nature 1995, 376, 578-581  DATE CONSTDERED 12/16/2/19	-									
GK Weblie of Prof. David R. Llu, publicly available 20 Nov 2002 GL Weblie of Prof. David R. Llu, publicly available 15 Oct 2003 GL Weblie of Prof. David R. Llu, publicly available 15 Oct 2003 GM Incuse et al., "Cligomerization of (Cuanosine 5'-phosphor)-2-methylimidezoido on Poly(C), J. Mol. Biol. (1982), 162, 201-217 GN C. B. Chen et al., "Templated-riceded synthesis on Oligodeoxycytidylate and Polydeoxycytidylate templates" J. Mol. Biol. 1985, 181, 271 GN F. Rich Book 181, "Single-stand regions of Poly(G) act as templates for oligo(C) synthesis" H. Rich Book 1943, 33-205 GP T. Incus et al., "A nonencymatic RNA polymerase model", Science 1983, 219, p859-962 GP T. Incus et al., "A nonencymatic RNA polymerase model", Science 1983, 219, p859-962 GP C. L. Acevedo et al., "Non-enymatic transcription of an oligonuclosidided 1 residues long." J. Mol. Biol. 1987, 197, p187-193 J. H. C. GP C. Bolifer et al., "Template switching between PNA and RNA oligonuclosidides", Nature 1995, 376, 578-581 J. H. C. G.	⊢⊢									
GL Website of Prof. David R. Liu, publicly available 15 Oct 2003  GM Inoue et al. "Giomentazion of (Guanosine 5-phosphor)-z-methylimidazolido on Poly(C), J. Mol. Biol. (1982), 162, 201-217  GN C. B. Chen et al., "Emplate-directed synthesis on Oligodeoxycytidylate and Polydeoxycytidylate templates" J. Mol. Biol. 1985, 181, 271  GO I. H. Rembold et al., "Single-strand regions of Poly(G) act as templates for oligo(C) synthesis" J. Mol. Evol. 1984, 39, 205.  GP T. Inoue et al., "A nonenzymatic RNA polymerase model", Science 1983, 219, p859-862  GO C. L. Acevedo et al., "Non-mymatic transcription of an oligonucleotide 14 residues long", J. Mol. Biol. 1987, 197, p187-193  (HC) GP C. Böhler et al., "Template switching between PNA and RNA oligonucleotides", Nature 1995, 376, 578-581  [ANATINER   Hearther Calamilia/   DATE CONSTIDERED   2/16/2/19	⊢⊢									
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GN C. B. Chen et al., "Emplate-directed synthesis on Oligodeoxycytidylate and Polydeoxycytidylate templates" J. Mol. Biol. 1985, 181, 271  GO H. Remboid et al., "Single-strant regions of Poly(G) act as templates for oligo(C) synthesis" J. Mol. Evol. 1994, 39, 205.  GP T. Incue et al., "A nonenzymatic RNA polymerase model", Science 1983, 219, 2963  GO O. L. Acevedo et al., "Non-enymatic transcription of an oligonucleotide 14 residues long", J. Mol. Biol. 1987, 197, p187-193  (HC)( GP C. Böhler et al., "Template switching between PNA and RNA oligonucleotides", Nature 1995, 376, 578-581  [Hazhler C. Jalmilia/ DATE CONSTERRED 1/21/6/2/19]			Inque et al "Olicomerization of (Guanceine 5'-	hosphor)-2-methylimidezolide on Poly(C) .1 Mol R	iol. (1982). 162, 201-217					
GO H. Rembold et al., "Single-strand regions of Poly(G) act as templates for oligo(C) synthesis" J. Mol. Evol. 1994, 39, 205.  GP T. Incue et al., "A nonenzymatic RNA polymerase model", Science 1983, 219, p859-869.  GO C. L. Acevedo et al., "Non-enymatic transcription of an oligonucleotide 14 residues long", J. Mol. Biol. 1987, 197, p187-193  (HC)I GP C. Böhler et al., "Template switching between PNA and RNA oligonucleotides", Nature 1995, 376, 578-581  EXAMANEE: Hearther Calamilia/  DATE CONSTIDERED 2/16/2/19.			C. B. Chen et al., "Template-directed synthesis	on Oligodeoxycytidylate and Polydeoxycytidylate te	mplates" J. Mol. Biol. 1985, 181,					
GP T. Incue et al., "A nonenzymatic RNA polymerase model", Science 1993, 219, p859-962 GO O. L. Acevedo et al., "Non-enymatic transcription of an eligonucleotide 14 residues long", J. Mol. Biol. 1987, 197, p187-193 [H.C.] GP C. Böhler et al., "Template switching between PNA and RNA oligonucleotides", Nature 1995, 376, 578-581  EXAMANEE   Hearther Calamita/	1	GO	H. Rembold et al., "Single-strand regions of Pol	y(G) act as templates for oligo(C) synthesis"						
GO O. L. Acevedo et al., "Non-enzymatic transcription of an oligonucleotide 4 residues long." J. Mol. Biol. 1987, 197, p187-193    HC J  GP C. Böhler at al., "Template switching between PNA and RNA oligonucleotides", Nature 1995, 376, 578-581    EXAMINER   Hearther Calamita/   DATE CONSIDERED 12/16/2019	$\vdash$	1 00		no model" Colongo 1983 219 n859 862						
HC/  GP   C. Böhler et al., Template switching between PNA and RNA oligonucleotides", Nature 1995, 376, 578-581    EXAMINER	<del>   -</del>		O. I. Acevedo et al. "Non-enzymatic transcripti	on of an oligonucleotide 14 residues long". I Mol F	Biol. 1987, 197, p187-193					
EXAMINER /Heather Calamita/ DATE CONSIDERED 12/16/2008	0.17		C. Böhler et al., "Template switching between P	NA and RNA oligonucleotides". Nature 1995. 376.	578-581					
				DATE CONSIDERED 12/16/200	18					
			itial if reference considered. Draw line through cita							